NESTEROV, A.A.

Formation of scrofulouslike phlyctenae of psychogenic origin; a case from practice. Sov. med. 25 no.7:151 Jl '61. (MIRA 15:1)
(EYE--DISEASES)

NESTEROV, A.A., podpolkovnik meditsinskoy sluzhby

Removal of foreign bodies form the cornea under the control of a slotten lamp. Voen.-med. zhur. no.7:80 Jl '61. (MIRA 15:1)
(CORNEA--FOREIGN BODIES)

NESTEROV, A. A. (Lieutenant Colonel of the Medical Service)

"Removal of Foreign Bodies from the Cornea Under the Control of a slit lamp."

Voyenna-Meditsinskiy Zhurnal, No. 12, December 1961, pp 72-73

NESTEROV, A.A.

Ruler for measurement of the interpupillary distance and the diameter of the pupil. Oft.zhur. 14 no.7:435-436 '59. (MIRA 13:4)
(EYE, INSTRUMENTS AND APPARATUS FOR)

39213
S/263/62/000/007/012/014
I007/I207

AUTHOR: Burakov, E. B., Zotov, V. G., Nesterov, A. A. and Shamray, B. V.

TITLE: Magnetic semiconductor amplifier for the conversion of thermoelectromotive force into d.c. voltage

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. Izmeritel'naya tekhnika, no. 7, 1962, 49, abstract 32.7.318. "Izv. Leningr. elektrotekhn. in-ta", no. 45, 1961, 194-200

TEXT: Description is given of a magnetic semiconductor amplifier for conversion of thermoelectromotive force into d.c. voltage according to the a.c. amplifying method. The amplifier consists of three components—modulator, a.c. amplifier and rectifier. The modulator is a magnetic voltage amplifier with a double-frequency output, permitting separate adjustment of modulus and phase in the a.c. windings, and hence equalization of odd (uneven) harmonics. The modulator is fed from a semiconductor RC-generator of 8.5 kcs. At an input voltage of about 4 to 5 Mv, the amplifier has satisfactory linear characteristics. The output resistance is 70 ohms, the sensitivity 10 microvolts and the voltage amplification 4000 volts. The amplifier is designed for a load of 4000 ohms.

[Abstracter's note: Complete translation.]

Card 1/1

L 22961-65

ACCESSION NR: AP5003188

known number of switching points) are indicated. A method is proposed which is based on the approximation of the step function with a given accuracy by a continuous function convenient for integration of plant equations. This method makes it possible to reduce the problem of determining the initial conditions for the vector ψ to the solution of [illegible] systems of transcendental equations with n unknowns. Solutions of these equations uniquely determine the vector ψ and, consequently, the optimal control vector U. It is noted that the proposed method is theoretically applicable to computer solution of the derived transcendental equations for systems of arbitrary order and with an arbitrary number of control parameters. The synthesis of an optimal control for fourth-order plants with two control parameters and with the complex roots of the characteristic equation is presented as an illustration. Orig. art. has: 22 formulas. [LK]

ASSOCIATION: Institut avtomatiki i elektrometrii, Sibirskoye otdeleniye AN SSSR (Institute of Automation and Electrometry, Siberian Division, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, MA

NO REF SOV: 001 OTHER: 000 ATD PRESS: 3170

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700039-6

L [illegible] EWT(d)-2/EWT(d) Pg-4/Pk-4/Pl-4/Po-4/Pq-4/Pu-4/Pae-2 IJP(c)
ACCESSION NR: AT5003186 WW/BC S/3005/64/000/008/0003/0014

AUTHOR: Nesterov, A. A.

TITLE: Synthesis of optimal control when the characteristic equation has complex roots

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut avtomatiki i elektrometrii. Trudy, no. 8, 1964. Avtomaticheskoye upravleniye nepreryvnymi protsessami (Automatic control of continuous processes), 3-14

TOPIC TAGS: optimal control synthesis, characteristic equation complex root, Pontryagin maximum principle, transcendental equation

ABSTRACT: The synthesis of an optimal control is studied in the case when the characteristic equation of the system being controlled has complex roots. Difficulties in determining initial conditions of the vector function ψ (the existence of the nonzero vector function ψ is the necessary condition for the synthesis of the optimal control), without which the equations of the controlled system can not be integrated (the right hand sides are step functions of time with an un-

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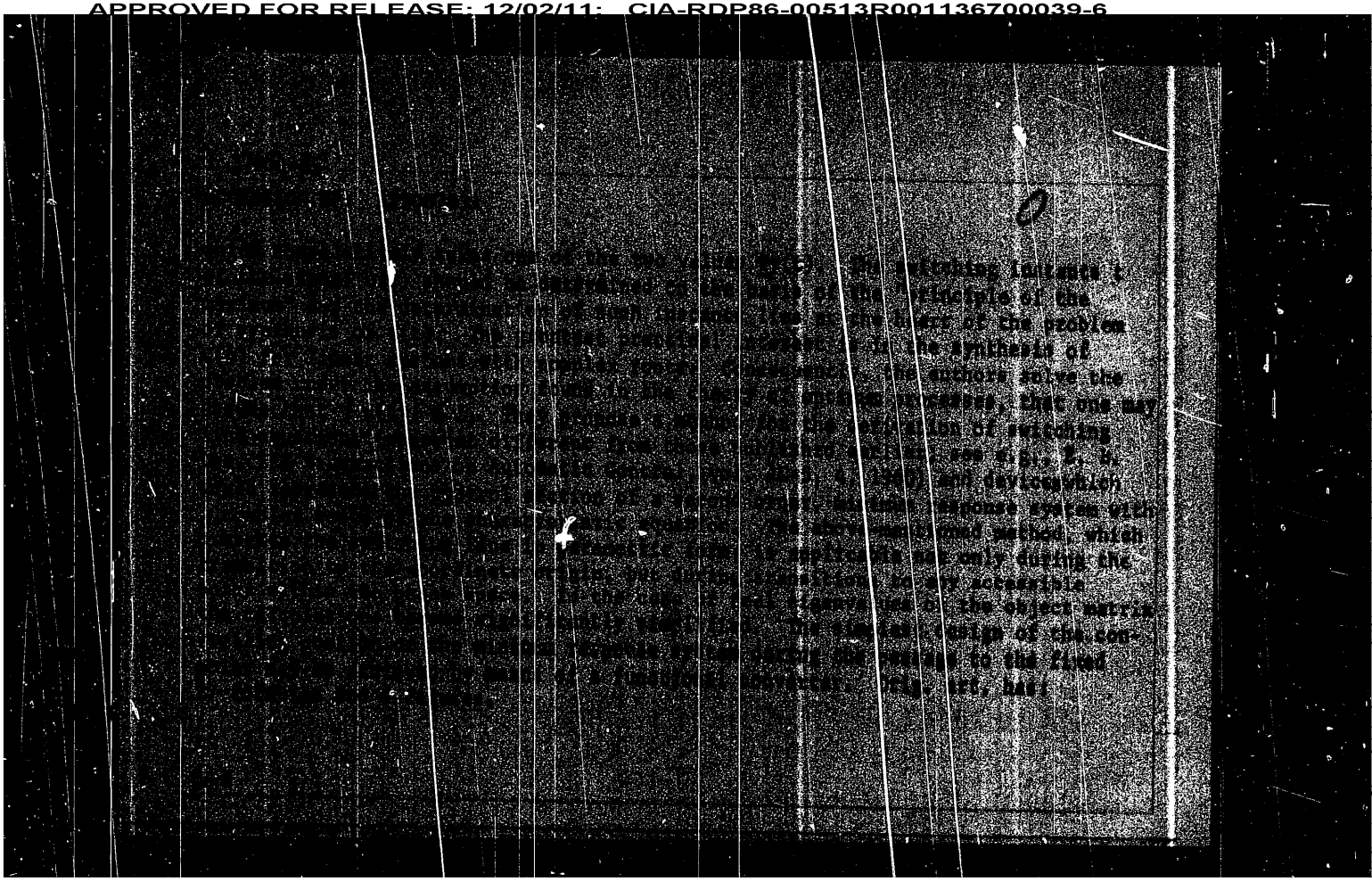
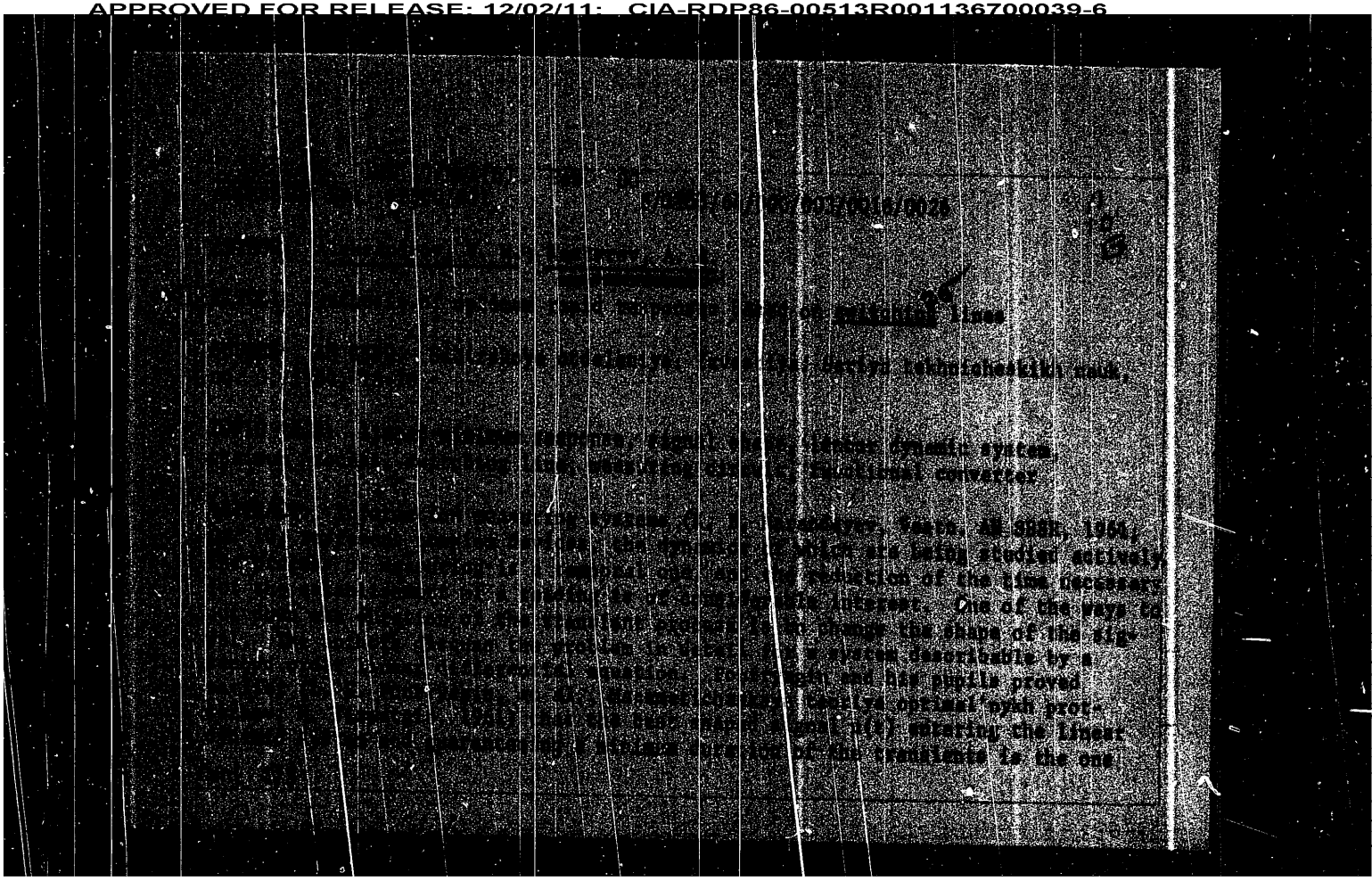
ILLEGIBLE





ALEKSANDROV, V.M.; MATIYENKO, B.G.; NESTEROV, A.A.

Shortening the response time for linear measuring systems of n-th order. Izv. SO AN SSSR no.2. Ser. tekh. nauk no.1: 42-53 '64. (MIRA 17:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

always up to date. It blames Soviet industry which, for instance, does not produce a sufficient number of electronic and semiconductor devices, and other apparatuses. A Central Laboratory is being established in Moscow which will manufacture complicated organic chemical reagents and compounds. A considerable part of the responsibility for the poor equipment must also be attached to the leaders of educational institutions who do not display the required persistence and initiative. A great work in constructing devices was done by the Special Designing Bureau (Spetsial'noye konstruktorskoye byuro (SKB)) of the Ministry of Higher Education. It would also be very useful to organize serial production of the most valuable exhibits of the pavilion "Higher School" at the permanent All-Union Industrial Exhibition and to utilize it for vuz teaching and research work.

ASSOCIATION: Main Administration for the Supply of Materials and Equipment, USSR Ministry of Higher Education (Glavnoye upravleniye snabzheniya materialami i oborudovaniyem Ministerstva vysshego obrazovaniya SSSR)

AVAILABLE: Library of Congress

Card 3/3

devices. Thus, the value of the latest type of equipment furnished to the Moscow Engineering and Physical Institute alone amounted to 2,2 million rubles. The former Ministry of the Machine-Tool Construction and Tool Industry handed over to the Moscow Machine-Tool and Tool Institute (Moskovskiy stankoinstrumental'nyy institut) about 80 metalcutting lathes of new design. Yet, the equipment cannot be regarded as sufficient, and the grievances of a number of vuzes are justified. For instance, the Leningrad University (Leningradskiy universitet) is in need of an electric vacuum meter, and the laboratories of the "old" faculties of the MVTU imeni Bauman use equipment of pre-war make. This hampers training, and the situation worsens as in the near future many new scientific-research laboratories will be organized on the basis of a last year's decision of the USSR Council of Ministers. Moreover, specialized radio-chemical laboratories will be established this year at 20 higher schools. In 1955, the organization of mechanical training workshops at the vuzes began; the number was then 29; in 1956, 29 were added and this year 19 more will be organized. The article then asks why the technical equipment of the vuzes is not

NESTEROV, A.A.

3-6-14/29

AUTHOR: Nesterov, A.A., Chief of Main Administration for the Supply of Materials and Equipment, USSR Ministry of Higher Education.

TITLE: To the Vuzes - A Modern Technical Foundation (Vuzam - sovremennuyu tekhnicheskuyu bazu)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 6, pp 62 - 65 (USSR)

ABSTRACT: The article deals with the technical equipment furnished to the higher educational institutions, the still existing needs and ways to overcome them. It states that during the 5th Five-Year Plan, the value of various equipment items, assigned by the Supply Administration of the Ministry (Glavsnab) alone, amounted to 1,8 billion rubles. The scientific workers of the higher educational institutions received several dozen electronic microscopes, hundreds of spectrometric devices, many d/f stations etc. The laboratory equipment of the comparatively recently established vuzes (Ryazan' and Taganrog Radio Engineering-, Izhevsk Mechanical-, Frunze-, Stalinabad- and Krasnoyarsk Polytechnical Institutes, the Yakutsk and Dal'nevostochnyy universities has been supplemented. The industrial ministries and departments donated to the vuzes more than 54 million rubles worth of equipment and

Card 1/3

ACC NR: AT7000303

saturation current change. Comparison of the data on inner-cone saturation current vs. acetylene concentration with similar previously obtained data for the outer cone also showed a lack of correspondence. This was regarded as confirming the chemical nature of the ionization in the inner cone (flame reaction zone) in contrast to the thermal ionization prevailing in the outer cone. Calculation of the ionization rate (q) was made using the saturation current data and the equation $i_c = qed$, where i_c is the saturation current density. Also measured was the charged particle concentration (n_0) in the inner and outer cones of an acetylene-air flame. The recombination coefficients (γ) in the inner and outer cone were then calculated from the formula $\gamma = q/n_0^2$. Based on the inner- and outer-cone values of γ, it is postulated that ionic recombination is the prevailing recombination process in both cones. Orig. art. has: 1 figure and 7 formulas. [W. A. 68] [SM]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 004/ OTHER REF: 006

Card 3/3

ACC NR. AT7000303

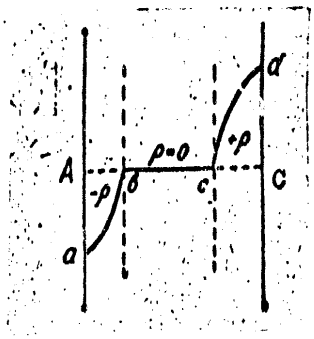


Fig. 1. Charged layers along electrodes in a flame placed in an electric field. γ is the charge density

between the electrodes must not exceed the thickness (l_c) of the cathodic layer, but must exceed a certain distance (l_0) at which at relatively high voltages impact ionization will occur, i.e.,

$$l_0 < d \leq l_c.$$

Experimental work involved measurements by a previously described method for acetylene-air and acetylene-oxygen flames, of inner-cone saturation current and outer-cone temperature as a function of acetylene concentration in the mixture. It was found that the pattern of the outer-cone temperature change does not correspond to that of the inner-cone

Card 2/3

ACC NR: AT7000303 SOURCE CODE: UR/3142/60/150/007/0193/0200

AUTHOR: Nesterko, N. A.; Rossikhin, V. S.

ORG: none

TITLE: Saturation current in flames

SOURCE: Odessa. Universitet. Trudy, v. 150. Seriya fizicheskikh nauk, no. 7, 1960. Voprosy ispareniya i goreniya v dispersnom vide (Problems of evaporation and combustion in the dispersed state), 193-200

TOPIC TAGS: combustion, flame control, external combustion stimulus, electric field, acetylene

ABSTRACT: A theoretical analysis has determined the conditions for producing a saturation current in a flame placed in an electric field. The flame outer cone was considered where, in contrast to the inner cone, ionization was expected to be spatially uniform. It was shown that when a flame is placed in an electric field, charged layers form along the electrodes (see Fig. 1); the thickness of such layers depends upon many factors. The conditions for producing a saturation current were found to be: 1) electrodes must be flat and parallel and free of contaminants (including traces of soot); 2) electrodes must be mobile and the time of residence of electrodes in the flame must be such that heating does not give rise to thermionic emission; 3) the gap (d)

Card 1/3

ACC NR: AT7000303

saturation current change. Comparison of the data on inner-cone saturation current vs. acetylene concentration with similar previously obtained data for the outer cone also showed a lack of correspondence. This was regarded as confirming the chemical nature of the ionization in the inner cone (flame reaction zone) in contrast to the thermal ionization prevailing in the outer cone. Calculation of the ionization rate (q) was made using the saturation current data and the equation $i_c = qed$, where i_c is the saturation current density. Also measured was the charged particle concentration (n_0) in the inner and outer cones of an acetylene-air flame. The recombination coefficients (γ) in the inner and outer cone were then calculated from the formula $\gamma = q/n_0^2$. Based on the inner- and outer-cone values of γ, it is postulated that ionic recombination is the prevailing recombination process in both cones. Orig. art. has: 1 figure and 7 formulas. [W. A. 68] [SM]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 004/ OTHER REF: 006

Card 3/3

ACC NR: AT7000303

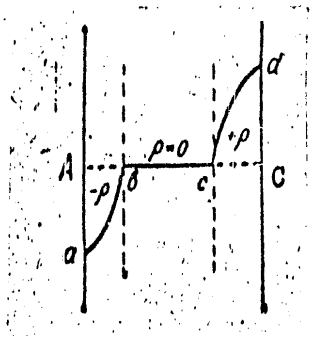


Fig. 1. Charged layers along electrodes in a flame placed in an electric field. γ is the charge density

between the electrodes must not exceed the thickness (l_c) of the cathodic layer, but must exceed a certain distance (l_0) at which at relatively high voltages impact ionization will occur, i.e.,

$$l_0 < d \leq l_c.$$

Experimental work involved measurements by a previously described method for acetylene-air and acetylene-oxygen flames, of inner-cone saturation current and outer-cone temperature as a function of acetylene concentration in the mixture. It was found that the pattern of the outer-cone temperature change does not correspond to that of the inner-cone

Card 2/3

ACC NR: AT7000303 SOURCE CODE: UR/3142/60/150/007/0193/0200

AUTHOR: Nesterko, N. A.; Rossikhin, V. S.

ORG: none

TITLE: Saturation current in flames

SOURCE: Odessa. Universitet. Trudy, v. 150. Seriya fizicheskikh nauk, no. 7, 1960. Voprosy isparenlya i goreniya v dispersnom vide (Problems of evaporation and combustion in the dispersed state), 193-200

TOPIC TAGS: combustion research, flame control, external combustion stimulus, electric field, acetylene

ABSTRACT: A theoretical analysis has determined the conditions for producing a saturation current in a flame placed in an electric field. The flame outer cone was considered where, in contrast to the inner cone, ionization was expected to be spatially uniform. It was shown that when a flame is placed in an electric field, charged layers form along the electrodes (see Fig. 1); the thickness of such layers depends upon many factors. The conditions for producing a saturation current were found to be: 1) electrodes must be flat and parallel and free of contaminants (including traces of soot); 2) electrodes must be mobile and the time of residence of electrodes in the flame must be such that heating does not give rise to thermionic emission; 3) the gap (d)

Card 1/3

[illegible]
ACCESSION NR: AP4043863

2

ization rate ranged from 3.12 x 10^{13} cm^{-3} sec^{-1} for the pure flame to [illegible] x 10^{14} for the maximum KCl concentration. The recombination coefficient ranged from 3.1[illegible] x 10^{-9} cm^3/sec for the pure flame to 0.23 x x 10^{-10}. The average lifetime is not affected by addition of the alkali metal salt. To explain the experimental data, a hypothesis is advanced that the dominating recombination process is ion recombination in the pure flames and electron recombination in the presence of salts. An estimate of 3.[illegible] x 10^{-3} sec is given for the average ion lifetime in the external cone, which is much higher than the lifetime in the reaction zone, where the carrier concentration is higher. "The author thanks [illegible] for interest in the work." Orig. art. has: 2 tables.

ASSOCIATION: Dnepropetrovskiy gosuniversitet (Dnepropetrovsk State University)

SUBMITTED: [illegible] ENCL: 00

SUB CODE: [illegible] NR REF SOV: 008 OTHER: 008

Card 2/2

L [illegible] EWT(1)/EPF(c)/EPA(s)-2/EEC(t)/T/EWA(m)-2 Pab-24/Pr-4

ACCESSION NR: AP[illegible] S/0139/64/000/004/0017/0021

43
41

AUTHOR: [illegible]

TITLE: On the ionization rate, recombination, and average lifetime of ions in flames

SOURCE: IVUZ. Fizika, no. 4, 1964, 17-21

TOPIC TAGS: ionization, flame, half life, recombination coefficient, ion recombination, electron recombination

ABSTRACT: The ionization rate, the recombination coefficient, and the average ion lifetime in the external cone of pure and salt-containing acetylene-air flames at atmospheric pressure were determined by measuring the saturation current, using a procedure described by the author elsewhere (with V. S. Rossikhin, ZhFKh, v. 31, 12, 2665, 1957 and v. 33, 3, 665, 1959). The salts added were KCl and NaCl, in amounts ranging up to 6×10^{18} molecules/cm^3. The ion-

Card 1/2

NESTERKO, N.A.; ROSSIKHIN, V.S.; TVERDOKHLEBOV, V.I.

Study of flame ionization by the electrode method. Zhur. fiz. khim. 37 no.4:940-942 Ap '63. (MIRA 17:7)

1. Gosudarstvennyy Dnepropetrovskiy universitet imeni 300-letiya vossoyedineniya Ukrainy s Rossiyey i Dnepropetrovskiy gornyy institut im. Artema.

L 18334-63 BDS/EWP(1)/ES(w)-2 AFFTC/ASD/ESD-3/IJP(C)/SSD Pab-4

AUTHOR: Nesterko, N. A., Rossikhin, V. S., Tverdokhlebov, V. I. 68

TITLE: Investigation of flame ionization by the electrode method

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, No. 4, 1963, 940-942

TEXT: The Thompson electrode method can give much useful data when investigating the ionization of flames; however, any interpretation of experimental data should be made with great caution because of the complexity of the processes which occur in the flame and especially near electrodes. Particular criticism is directed at A. A. Arshinov and I. M. Vostrikov for shortcomings in their work on the electrode method. The most important English-language references read as follows: P. E. Boucher, Phys. Rev., 31, 833, 1928, H. E. Banta, Phys. Rev., 33, 21., 1929, H. E. Wilson, Rev. Mod. Phys., 3, 156, 1931.

ASSOCIATION: Gosudarstvennyy Dnepropetrovskiy universitet imeni 300-letiya vossoyedineniya Ukrainy s Rossiyey i Dnep[illegible]rovskiy Gornyy institut imeni Artema (State Dnepropetrovsk University imeni the 300th Anniversary of the Reunion of the Ukraine with Russia and the Dnepropetrovsk Mining Institute imeni Artem)

SUBMITTED: December 22, 1961

Card 1/1

ZHITKEVICH, V.F.; LYUTYY, A.I.; NESTERKO, N.A.; ROSSIKHIN, V.S.; TSIKORA, I.L.

Excitation of atomic spectra in the reaction zone of the acetylene—air flame. Opt. i spektr. 14 no.3:336-341 Mr '63. (MIRA 16:4)
(Spectrum, Atomic) (Acetylene)

of Sr and Ba is also increased by the introduction of halogens. This appearance of intense bands of the alkaline earth halides on the addition of halogens can be used for increasing the sensitivity of analysis for such elements as Mg and the halogens. There are 2 figures.

SUBMITTED: October 12, 1961

Card 2/2

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700039-6

S/051/63/014/001/006/031
E039/E120

AUTHORS: Zhitkevich, V.F., Lyutyy, A.I., Nesterko, N.A., Rossikhin, V.S., and Tsikora, I.L.

TITLE: The spectroscopic study of dissociation and ionization processes in the flame

PERIODICAL: Optika i spektroskopiya, v.14, no.1, 1963, 35-38

TEXT: The effect of halogens on the line radiation from atoms and ions and also the halide and hydroxide bands of the alkaline earth metals and alkaline metals were studied. The alkali earth metals Mg, Ca, Sr, Ba, and the alkali metals Li, Na, K, Rb, Cs, are supplied to an acetylene-air flame by means of an atomizer from aqueous solutions of the chlorides. Radiation is observed from the outer cone of the flame, 1.5 - 2 cm above the inner cone. The introduction of halides into the flame containing these metals produces a displacement of the dissociation equilibrium leading to a decrease in the number of free atoms and of the hydroxides of these metals and an increase in number of their halides. The intensity of the ionic lines

Card 1/2

ZHITKEVICH, V.P.; LYUTYY, A.I.; NESTERKO, N.A.; ROSSIKHIN, V.S.; TSIKORA, I.L.

Role of ions in a flame containing salt. Izv.vys.ucheb.zav.;fiz.no.2: 78-84 '63. (MIRA 16:5)

1. Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya vossoyedineniya Ukrainy s Rossiyey.
(Ionization) (Flame) (Salts)

S/185/62/007/011/010/019
D234/D308

Study of physical and chemical ...

ASSOCIATION: Dnipropetrovs'kyy derzhuniversytet (Dnepropetrovsk State University)

SUBMITTED: March 24, 1962

Card 2/2

S/185/62/007/011/010/019
D234/D308

AUTHORS: Lyutyy, A.I., Nesterko, N.A., Rossikhin, V.S. and Tsykora, I.L.

TITLE: Study of physical and chemical processes in the reaction zone of acetylene flame

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 11, 1962, 1218-1221

TEXT: A detailed review of literature is given. The authors include the results of experiments in which Ca and Mg were introduced into the flame at atmospheric pressure. Intensity of the Mg lines increased on passing from the outer zone to the reaction zone if the excitation energy of the lines was above 4.4 ev. It is concluded that the excitation is controlled by temperature in the outer zone and is anomalous in the reaction zone; for excitation potentials lower than 5 ev it can be thermal in both zones, above 5 ev it can only be anomalous. There is 1 table and 14 references: 18 Soviet-bloc and 6 non-Soviet-bloc.

Card 1/2

Study of physical ...

tivity of analysis for the alkali and alkaline-earth metals flames with a high concentration of free electrons should be used in the case of atomic lines, and those with a low concentration in the case of ionic lines. There are 1 figure and 2 tables.

ASSOCIATION: Dnipropetrovs'kyy derzhuniversytet (Dnepropetrovsk State University)

SUBMITTED: March 24, 1962

S/185/62/007/011/009/019
D234/D308

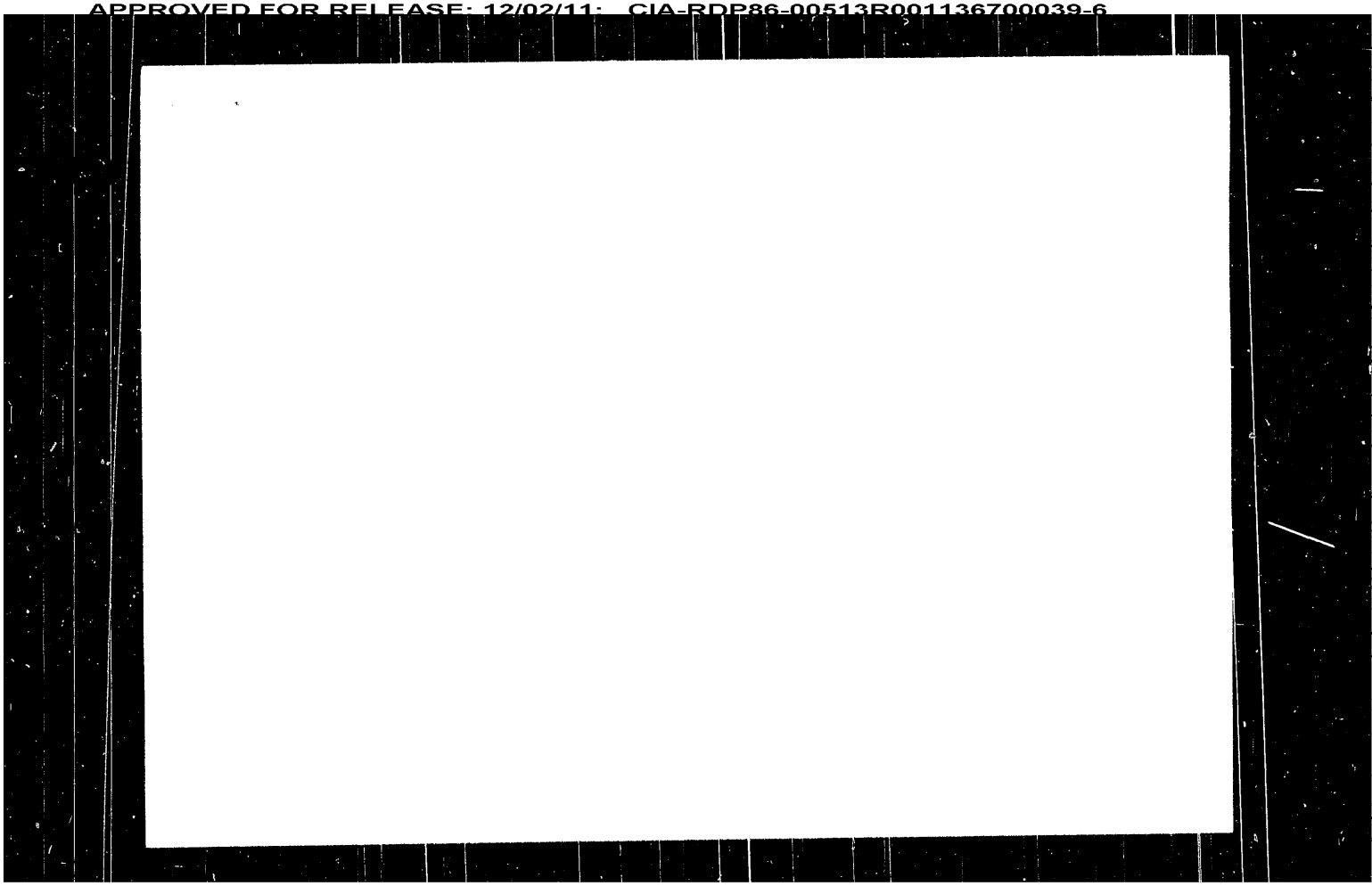
AUTHORS: Lyutyy, A.I., Nesterko, N.A., Rossikhin, V.S. and Tsykora, I.L.

TITLE: Study of physical and chemical processes in the equilibrium zone of an acetylene flame

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 11, 1962 1214-1216

TEXT: Metallic Na vapor was introduced into the outer cone of the flame and the effect of its presence on the spectral lines of Rb and Cs was studied. The intensity of the latter increased while that of the Ba and Sr lines became lower indicating a displacement of the ionization equilibrium. This can be used for increasing the sensitivity of spectroscopic analysis. The partial pressure of free electrons in pure flame was determined by spectroscopic methods, adding Sr and Ba to air- and oxy-acetylene flames. The order of magnitude of the result agrees with that of the pressure determined from the saturation current. To increase the sensi-

Card 1/2



APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700039-6

88676

S/051/61/010/002/003/003
E201/E291

The Effective Vibrational Temperature of the Acetylene-Air Flame

sensitivity was 65 ГОСТ (GOST) units. The exposures were such that the BaO and C_2 band edges were of easily measurable optical densities. The band intensities were taken to be the intensities of the band edges, after subtraction of the continuous background and other bands near the edge. The effective vibrational temperature, T_{vib}, was deduced from

$$I = \frac{CP_{v'v''}}{\lambda^4} e^{-\frac{hcE(v')}{kT_{vib}}} \qquad \text{Equation 1}$$

where C is a coefficient which is constant for all bands in one electronic-vibrational system; $P_{v'v''}$ is the relative probability of the relevant transition; λ is the wavelength of the transition; E(v') is the energy of the upper vibrational term. The dependence of $[\log I - \log (P_{v'v''}/\lambda^4)]$ on E(v') should be a straight line (for Boltzmann or pseudo-Boltzmann distribution of energy in vibrational levels) whose slope gives T_{vib}. The relative values of the transition probabilities $P_{v'v''}$ for the C_2 and BaO bands were taken from published work. The straight lines used to find

Card 2/4

88676

S/051/61/010/002/003/003
E201/E291

11.5100

AUTHORS: Ortenberg, F. S. and Nesterko, N. A.

TITLE: The Effective Vibrational Temperature of the Acetylene-Air Flame

PERIODICAL: Optika i spektroskopiya, 1961, Vol. 10, No. 2, pp. 270-272

TEXT: The present paper deals with the vibrational energy distribution of various radicals in acetylene-air flames. The energy distribution is deduced from the vibrational bands of the flames which are assigned an effective vibrational temperature. This can be done only if reliable values of transition probabilities are available. The authors studied the intensity distribution of the vibrational bands of C_2 and BaO molecules which were located, respectively, in the inner and outer "cones" of acetylene-air flames (11% C_2H_2) burning at atmospheric pressure. The BaO bands were obtained by introducing solutions of $BaCl_2$ (0.1 molar conc.) by means of an atomizer. The spectra were recorded with a glass Zeiss spectrograph of medium dispersion; the slit width was 0.03 mm. Isochromatic plates were used; their

Card 1/4

S/185/61/006/[illegible]
D299/D304

Cases of deviation from the ...

not only disturbs the dissociation equilibrium, but may also lead to deviations from the ionization equilibrium. There are 1 figure, 1 table and 2 non-Soviet-bloc references;(including 1 translation) The reference to the English-language publication reads as follows: E.M. Bulewicz, T.M. Sugden, Trans. Farad. Soc., 55, no. 5, 720, 1959.

ASSOCIATION: Dnipropetrovskyy derzhavnyy universytet im. 300-richchya vozz'yednannya Ukrayiny z Rosiyeyu (Dnipropetrovs'k State University im. 300-th Anniversary of the Ukraine's Union with Russia)

Card 3/3

Cases of deviation from the ...

1; Trans. Farad. Soc., 55, No. 5, 720, 1959) showed that the MgH band does not appear in the spectrum of the outer cone if powdered Mg is introduced. In the experiments conducted by the authors, the conditions for the formation of MgH were more favorable (a large number of atoms, comparatively low temperatures -- of the order of 1000°K). Under these conditions, MgH molecules could be formed by 2 different reactions. An analysis of these reactions shows the absence of thermodynamic equilibrium in the observed zone. If CCl_4 vapor is introduced into the flame together with the air current, then a decrease in the intensity of the lines of the Ca, Sr, Li, Ba, Na, K, Rb and Cs-atoms, is observed. A table shows the values of the electrical conductivity of the flame before and after the introduction of CCl_4; on introducing CCl_4, the electrical conductivity behaves in a different way -- for some elements it increases, whereas for others it increases (or remains unchanged). In the case of Sr, the decrease in electrical conductivity is accompanied by a decrease in the intensity of the ionic Sr-line, whereas an increase in the intensity of the ionic Ba-line is accompanied by a slight increase in conductivity. Hence the presence of CCl_4 in the flame

Card 2/5

3444
S/185/61/006/006/023/030
D299/D304

11.5100

AUTHORS: Lyutyy, A.I., Nesterko, N.A., Rossykhin, V.S., and Tsykora, I.L.

TITLE: Cases of deviation from the thermodynamic equilibrium in the outer cone of a flame

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 6, 1961 851 - 852

TEXT: On adding various substances to a flame, the authors observed effects related to the absence of thermodynamic equilibrium. Thus, on introducing vapors of metallic magnesium directly into the outer cone of an acetylene-air flame and in a hydrogen-air flame, a small zone appeared (visible with the naked eye) at the spot where the metal vapor met the outer cone of the flame. The spectrum of the zone differs greatly from the spectrum of the rest of the cone. The zone spectrum has a band, contributed by the MgH molecule as well as a line of the Mg atom. If Cs vapor is also introduced into the zone, the Cs lines λ = 4555 and 4593 Å, become much stronger. Spectral investigations by T.M. Sugden and E.M. Bulewicz (Ref. X

Measurement of the Saturation Current in the Outer Cone of Pure and Salt-containing Flames

SOV/76-33-3-25/41

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet im. 300-letiya Vossoyedineniya Ukrainy s Rossiyey (Dnepropetrovsk State University imeni 300th Anniversary of the Reunion of Ukraine and Russia)

SUBMITTED: July 31, 1957

Card 3/3

Measurement of the Saturation Current in the Outer Cone of Pure and Salt-containing Flames

SOV/76-33-4-25/41

measured. The saturation current of the salt-containing flame increases with temperature, which confirms the thermal nature of ionization within the salt-containing outer cone of the flame. Since the saturation in salt-containing mixtures also rises in proportion to the acetylene content (within the same temperature range) it is assumed that the increase in the saturation current is effected by a thermal emission of electrons from the carbon particles (Ref 2) in addition to the ionization of Na atoms. The fact that no increase in the saturation current occurs by the action of Na addition of up to 2.10^{17} moles/cm^3 and of a K addition of up to 4.10^{16} moles/cm^3 is explained by the presence of a so-called "ionization background"(Ref 3). The size of that ionization background in the outer cone of the pure air-acetylene flame attains an order of magnitude of 10^{11} cm^{-3}. This was obtained by computing the electron concentration for additions of NaCl 2.10^{17} and KCl 4.10^{16} by the Saha formula. There are 4 figures and 4 references, 2 of which are Soviet.

Card 2/3

SOV/76-33-3-25/41

5(4)

AUTHORS: Rossikhin, V. S., Nesterko, N. A.

TITLE: Measurement of the Saturation Current in the Outer Cone of Pure and Salt-containing Flames (Izmereniye toka nasyshcheniya vo vneshnem konuse chistogo i solesoderzhashchikh plamen)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 3, pp 665 - 668 (USSR)

ABSTRACT: In continuation of a previous paper (Ref 1) the saturation current in the outer cone of pure and salt-containing air-acetylene flames is studied. By means of a unit with movable Ni-electrodes (surface 0.48 cm^2, distance 0.5 mm) the authors plotted volt-ampere diagrams of the outer cone of a pure flame and flames containing additions of NaCl and KCl in concentrations of 6.10^{11} - 6.10^{18} moles /cm^3 (Fig 1). Only KCl concentrations of 4.10^{16} moles/cm^3 and 2.10^{17} moles/cm^3 NaCl cause the saturation current to increase rapidly (Fig 2). The saturation current and the temperature in the outer cone of the air-acetylene flame within the concentration rang. of 9-18% acetylene were

Card 1/3

24(7) PHASE I BOOK EXPLOITATION SOV/1700

Lvov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956.
t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) /Lvov/ Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Trudy, vyp.4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Milyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

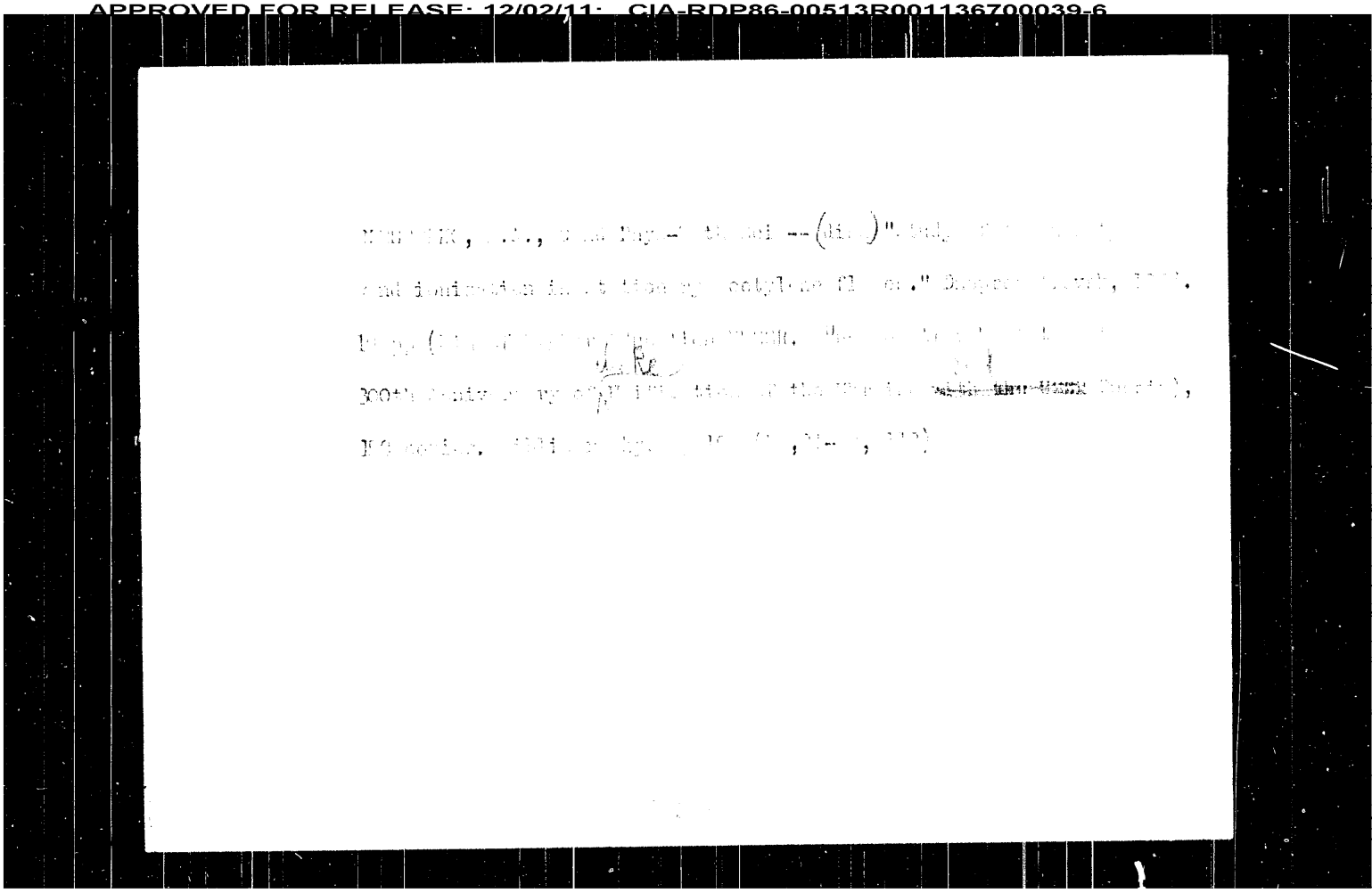
PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Card 19/31



Measurement of Ionization-Intensity in Flames 75-12-9/27

ASSOCIATION: Dnepropetrovsk State University imeni the 300-th Anniversary of the Reunion of Ukraine with Russia (Dnepropetrovskiy gosudarstvennyy universitet imeni 300-letiya vossoyedineniya Ukrainy s Rossiyey).

SUBMITTED: August 7, 1956

AVAILABLE: Library of Congress

Card 3/3

ductivity. The acetylene-oxygen flames are characterized by a higher electric conductivity in comparison to the acetylene-air flames. The amount of the saturation current (10^{-4}A) with these flames is approximately for one range greater than the saturation current (10^{-5}A) with the acetylene-air-flames. The interval of voltage at which the saturation-current is observed is smaller in the case of the acetylene-oxygen-flames than with the acetylene-air-flames. It is shown that, according to the plotted table, the intensity of ionization in the zone of reaction is of the order 10^{18} in the case of acetylene-oxygen-flames. In the case of acetylene-air-flames the intensity of ionization amounts to 10^{15}-10^{16}cm^{-3} according to the composition of the mixture, equally in the zone of reaction. The sufficiently high intensity of ionization in the zone of reaction with the acetylene-air-flame indicates a nonthermal character of ionization in the zone of reaction. This is also confirmed by the course of temperature in dependence on the composition of the mixture. It is assumed that the high intensity of ionization in the zone of reaction of the flame is produced by processes which are interrelated with chemical reactions taking place in the zone. There are 3 figures, 1 table, and 9 references, 2 of which are Slavic.

AUTHORS: Rossikhin, V.S., Nesterko, N.A. 76-12-9/27

TITLE: Measurement of Ionization-Intensity in Flames (Izmereniye intensivnosti ionizatsii v plamenakh).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 12, pp. 2663-2667 (USSR)

ABSTRACT: The object of this elaborate investigation was the measurement of ionization-intensity in steady acetylene-air and acetylene oxygen flames. The presence of a saturation current in steady, previously mixed acetylene-flames was stated. The volt-ampere characteristics of the inner cone of the acetylene-air-mixture with a concentration of 6, 8, 10, 12, 14, 16, 18 and 20% concentration show that the maximum of the saturation current is with the 10% mixture. The 8%-mixture is, according to the conductivity, close to the 12% mixture. The saturation current of the 8% mixture is somewhat lower than that of the 12% mixture. The poor 6% mixture is near to the 16 to 18% mixtures with respect to electric conductivity. The minimum voltage at which a saturation current is observed, corresponds to the rich mixtures (18-20%), whereas the more electric-conductive mixtures (8-12%) show a saturation at much higher voltages. The interval of voltage from the beginning of saturation to the breakdown is greater with less electroconductive mixtures than with those which show a high con-

Card 1/3

CHEREPANOVA, Ye.P., YEMEL'YANENKO, N.I., NESTERKO, A.D.

Ampalykskoye iron ore deposit. Sov. geol. 3 no.7:122-123 Jl '60. (MIRA 13:8)

1. Ampalykskaya geologorazvedochnaya partiya.
(Kuznetsk Basin--Iron ores)

NESTERKINA, A.

Large payments. Izobr. i rats. no.4:46 '63. (MIRA 16:7)

(Technological innovations)

NESTEROV, Ye.N., kand.med.nauk; NESTERINA, A.F., kand.med.nauk

Case of septic ulcerous endocarditis in a child with subvalvular perforation of the wall of the aorta. Vop. okh. mat. i det. 6 no.7:91-92 Jl '61. (MIRA 14:8)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. S.A.Vinogradov) i kafedry detskikh infektsionnykh bolezney (zav. - dotsent S.M.Gavalov) Krymskogo meditsinskogo instituta (dir. - dotsent S.I.Georgiyevskiy).
(ENDOCARDITIS) (AORTA--DISEASES)

NESTERINA, A, F.

Nesterina, A. F.

"Therapeutic Physical Culture in the Complex Treatment of Children Afflicted with Rheumatism." Second Moscow Medical Inst imeni I. V. Stalin. Moscow, 1955. (Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

NESTERKINA, A.

Specialist. Izobr. i rats. no.12:33 '63. (MIRA 17:2)

SHEPELEV, S.F.; ZALEVSKIY, Y.A.[deceased]; NESTERIN, V.G.

Means of distributing air at large-tonnage mines in [illegible].
Trudy Inst.gornogo dela AN Kazakh.SSR 15:64-66 '64.

(MIRA 18:2)

SHEPELEV, S.I.; ZALEVSKIY, Yu.A.; NESTERIN, V.G.

Calculation of round free turbulent jets moving in limited areas of chamber-type workings. Izv.AN Kazakh.SSR.Ser.gor.dela no.2 100-106 '61. (MIRA 15:2)

(Mine ventilation)

NESTERIN, M.F.; NARODETSKAYA, R.V.; SHLYGIN, G.K., prof.

Secretion of the lipoprotein complex in the liver bile. Biul. eksp. biol. i med. 60 no.7:56-60 Jl '65. (MIRA 18:8)

1. Laboratoriya fiziologii i patologii pishchevareniya (zav.-prof. G.K. Shlygin) Instituta pitaniya AMN SSSR, Moskva.

NESTERIN, M.F.; NAR[illegible]SKAYA, N.V.

Ability of the gall[illegible] to [illegible]. [illegible]
i med. 59 no.[illegible] '65. [illegible]

1. Laboratoriya fiziologii [illegible] (zav. - prof. G.K. Shlygin) Instituta [illegible] AMN SSSR, Moskva.

NESTERIN, M.F.; NARODETSKAYA, E.V.

Methods for obtaining pure gallbladder and liver bile in chronic experiments. Biul. eksp. biol. i med. 59 no.4:124-126 Ap '65. (MIRA 18:5)

1. Laboratoriya fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shtygin) Instituta pitaniya AMN SSSR, Moskva.

L 15740-66

ACC NR: AF5027346

acid deficiency led to its rapid death. The addition of β-acetylpyridine to the food of rats produced nicotinic-acid deficiency symptoms, subsequently prevented by the administration of nicotinic acid, nicotinamide, or tryptophane. The nicotinic-acid deficiency caused by the administration of a specific anti-metabolite caused a nutritional deficiency without structural alterations in the glandular cells. When β-acetylpyridine was given parenterally to healthy dogs in repeated doses of 1.0-2.0g/kg caused the development of a nicotinic-acid deficiency accompanied by changes in the secretory activity in the gastric and pancreatic glands, and by altered enzyme-secretory functions in the intestinal glands. The morphological structure of the oral mucosa, liver, and large and small intestines also changed. Orig. art. has: 2 figures and 3 tables.

SUB CODE: 06/ SUBM DATE: 17Mar64/ NR REF SOV: 006/ OTHER: 007

2/2

L 15740-66

ACC NR: AP5027346 (N) SOURCE CODE: UR/0396/65/009/005/0032/0036

AUTHOR: Nesterin, M. F.; Mikhlin, S. Ya.

ORG: Laboratory of Physiology and Pathology of Digestion, Institute of Nutrition, AMN SSSR, Moscow (Laboratoriya fiziologii i patologii pishchevareniya Instituta pitaniya AMN SSSR)

TITLE: Changes in the activity of digestive organs during administration of β-acetylpyridine

SOURCE: Patologicheskaya fiziologiya i eksperimental'naya terapiya, v. 9, no. 5, 1965, 32-26

TOPIC TAGS: drug effect, dog, rat, gland, digestion, digestive system, digestive drug, morphology

ABSTRACT: Beta-acetylpyridine was used as an antagonist to investigate the influence of nicotinic acid on the functions of organs and tissues of the alimentary canal. The administration of 192 mg of β-acetylpyridine to a dog with nicotinic

1/2 UDC: 612.3.014.46:615.756.1

ILLEGIBLE

NESTERIN, M.F.; MIKHLIN, S.Ya.

Effect of the deficiency of some group B vitamins on the external secretory activity of the pancreas. Biul. eksp. biol. i med. 57 no.1:41-44 Ja '64. (MIRA 17:10)

1. Laboratoriya fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR. Predstavlena deystvitel'nym chlenom AMN SSSR B.A. Lavrovym.

NESTERIN, M.F.; ANOKHIN, V.N.

Enzyme excretory function of the alimentary tract during the use of prednisone. Biul. eksp. biol. i med. 56 no.8:37-43 Ag '63. (MIRA 17:7)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR i kliniki fakul'tetskoy terapii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.I. Nesterov) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova. Predstavleno deystvitel'nym chlenom AMN SSSR A.I. Nesterovym.

NESTERIN M.F.; MIKHLIN, S.Ya.

Enzyme excretory processes in the principal digestive glands in some experimental avitaminoses. Vop. pit. 22 no.5:19-22 S-O '63. (MIRA 17:1)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shlygin) Institut pitaniya AMN SSSR, Moskva.

MIKHLIN, S.Ya.; NESTEREN, M.F. (Moskva)

Secretory function of the stomach in nicotinic deficiency following β-acetylpyridine administration. Fiziol. i eksp. terap. 7 no.6:61-64 N-D '63. (MIRA 17:7)

1. Iz laboratorii fiziologii [illegible] instituta pitaniya AMN SSSR.

MIKHLIN, S. Ya.; NESTERIN, M.F.; ROCHKOV, N.P. (Moskva)

Effect of β-acetylpyridine on the enzyme-excretory processes and morphological picture of the intestine in dogs. Pat. fiziol. i ekup. terap. 6 no.3:67-68 My-Je'62 (MIRA 17:8)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K.Shlygin) Instituta pitaniya AMN SSSR i Instituta eksperimental'noy patologii i terapii AMN SSSR (direktor - doktor med. nauk L.A. Lapin).

NESTERIN,M.F.; SMIRNOV,K.V.

Disorders and restoration of the activity of the digestive system in experimental radiation sickness. Radiobiologiia 2 no.6:859-867 '62 (MIRA 16:11)

1. Institut pitaniya AMN SSSR i Institut biologicheskoy fiziki AN SSSR, Moskva.

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42054

S/244/62/021/006/001/001
B144/B186

27,1220

AUTHOR: Nesterin, M. F., (Moscow)

TITLE: Effect of different diets on the secretory function of the intestine in dogs suffering from experimental radiation sickness

PERIODICAL: Voprosy pitaniya, v. 21, no. 6, 1962, 27 - 33

TEXT: A study was made of how different fats influence the secretory function of the digestive glands in dogs irradiated with 400 r and operated according to Tiry (with isolated duodenal sections). The diet contained 18 % protein, 52 % carbohydrates and 30 % fats, i. e. beef fat, sunflower-seed, cottonseed, or linseed oil. This was given one month before and one month after irradiation. The controls were fed beef fat. After irradiation, the liquid portion of the intestinal juice increased, and from the 9th and 10th day on, lasting in some cases to 10 - 12 weeks. The feeding of unsaturated fatty acids had no influence on these factors. Enrichment of the vegetable oils with 8 % of highly unsaturated arachidonic acid reduced both the hypersecretion and the intensity and duration of intestinal hemorrhage; the general reaction to irradiation

Card 1/2

SMIRNOV, K.V.; NESTERIN, M.F. (Moskva)

Secretory function of the pancreas in radiation sickness.
Pat. fiziol. i eksp. terap. 6 no.1:73-76 Ja-F '62. (MIRA 15:3)

1. Iz Instituta pitaniye AMN SSSR.
(RADIATION SICKNESS)
(PANCREAS—SECRETIONS)

intestine was observed after irradiation. This may be an effect of the changes in the acetylcholine-cholinesteraze system. There are 5 figures and 2 tables.

ASSOCIATIONS: Institut putaniya AMN SSSR
(Nutrition Institute AMS USSR)
Institut biologicheskoy fiziki AN SSSR, Moskva
(Institute of Biophysics AS USSR, Moscow)

SUBMITTED: April 24, 1962

Card 2/2

4348

S/205/62/002/006/010/021
E027/E410

21 2407

AUTHORS: Nesterin, M.F., Smirnov, K.V.

TITLE: Interruption and recovery of the activity of the digestive system in experimental radiation sickness

PERIODICAL: Radiobiologiya, v.2, no.6, 1962, 859-867

TEXT: The authors have investigated the effect of irradiation on gastrointestinal function in 27 dogs in which the appropriate fistulas had been established by operation. After determination of the baseline levels of activity, the animals were subjected to total body irradiation in a single dose of 400 r. This treatment affected the rate of secretion of gastric juice and pancreatic juice. The pepsin content of the gastric juice was not affected by irradiation but there was a fall in pancreatic amylase and in intestinal enterokinase. Normal values for the various functions were regained after varying times (stomach: volume 83 days, acidity 67 days; pancreas: volume 30 days, trypsin and amylase content 35 days, pH 14 days; duodenum: volume and enzymes 100 to 164 days; intestinal juice, ditto 164 to 198 days). Some increase in motor activity of the small

Card 1/2

MIKHLIN, S.Ya.; NESTERIN, M.F. (Moskva)

Gastric secretory function during folic insufficiency due to the administration of aminopterin. Vrach. delo no.8:3-6 Ag '61. (MIRA 15:3)

1. Laboratoriya fiziologii pishchevareniya (zav. - prof. G.K. Shlygin), radiobiologicheskaya laboratoriya (zav. - G.P. Yeremin) Instituta pitaniya AMN SSSR.

(STOMACH--SECRETIONS)
(FOLIC ACID) (AMINOPTERIN)

NESTERIN, M.F.

Effect of vitamins on the course of injuries caused by ionizing radiations. Med.rad. no.7:83-86 '61. (MIRA 15:1)

1. Iz laboratorii radiobiologii Instituta pitaniya AMN SSSR.
(RADIATION SICKNESS) (VITAMIN THERAPY)

MIKHLIN, S.Ya.; NESTERIN, M.F. (Moskva)

Secretory function of the pancreas and intestines in folic acid deficiency caused by the administration of aminopterin. Pat. fiziol. i eksp. terap. 5 no.6:26-30 N-D '61. (MIRA 15:4)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR.
(PANCREAS--SECRETIONS) (FOLIC ACID)
(DIGESTIVE ENZYMES) (GLUTAMIC ACID)

NESTERIN, M.F.

Impairment and restoration of the secretory function of the gastrointestinal tract in radiation sickness. Med.rad. 4 no.9:76-77 S '59. (MIRA 12:11)

1. Iz radiobiologicheskoy laboratorii (zav. - G.P.Yeremin) Instituta pitaniya AMN SSSR.
(RADIATION INJURY exper)
(GASTRIC JUICE)

NESTERIN, M.F. (Moskva)

Enzyme-secretory function of the intestine in acute radiation sickness [with summary in English]. Pat.fiziol. i eksp.terap. 3 no.1:30-33 Ja-F '59. (MIRA 12:2)

1. Iz radiobiologicheskoy laboratorii (zav. G.P. Yeremin) Instituta pitaniya AMN SSSR.

(ENZYMES
intestinal secretion, eff. of total-body x-irradiation in dogs (Rus))
(INTESTINES, effect of radiation,
x-ray total body x-irradiation, on enzyme secretion in dogs (Rus))
(ROENTGEN RAYS, effects,
total body, on intestinal enzyme secretion in dogs (Rus)

NESTERIN, M.F., YEREMIN, G.P.

Effect of nutrition on the course of radiation injuries in animals; review of the literature. Vop.pit. 17 no.5:3-8 S-O '58 (MIRA 11:10)

1. Iz radiobiologicheskoy laboratorii (zav. kand.biol. nauk. G.P. Yeremin) Instituta pitaniya AMN SSSR, Moskva.
(DIETS, eff.
on course of radiation inj. in animals, review (Rus))
(RADIATIONS, inj. eff.
eff. of nutrition on course of radiation inj. in animals, review (Rus))

T

USSR/Human and Animal Physiology - (Normal and Pathological).
Action of Physical Factors. Ionizing Radiation.

Abs Jour : Ref Zhur Biol., No 4, 1959, 18071

Author : Nesterin, M.F.
Inst : -
Title : The Secretory Function of the Intestines in Radiation Sickness.

Orig Pub : Med. radiologiya, 1958, 3, No 3, 42-46

Abstract : In dogs (D) with segments of duodenum and jejunum isolated according to Tyry, intestinal juice (LJ) was collected during 5 hours; the liquid part and "mucosal clots" were separated by centrifugation and weighted. The content of enzymes was determined by the quantitative method (G.K. Shlygin, 1950; L.S. Fomina, 1951). Having established the level of intestinal secretion, D were subjected to general roentgen irradiation with a dose of 400 r with an intensity of 15.4 r minute. After

Card 1/2

Radiobiological Lab - Inst Nutrition AMS USSR

- 129 -

NESTERIN, M.F.

Effect of total body x-irradiation on gastric & intestinal secretory function [with summary in English]. Med.rad. 3 no.2:61-66 Mr-Ap'58 (MIRA 11:5)

1. Iz radiobiologicheskoy laboratorii (zav. G.P. Yermin) Instituta pitaniya AMN SSSR.

(ROENTGEN RAYS, eff.
total body on gastric & intestinal secretory funct. in dog (Rus))
(GASTRIC JUICE,
secretion, eff. of total body x-irradiation in dog (Rus))
(INTESTINES, eff. of radiations on
total body on secretory funct. in dog (Rus))

NESTERIN, M.F.; MIKHLIN, S.Ya.; VERISOVA, M.A. (Moskva)

Rate of ferment excretion in the evaluation of the intestinal activity in atypical and abortive forms of dysentery. Klin.med. 35 [i.e.34] no.1 Supplement:28 Ja '57. (MIRA 11:2)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR i 1-y klinicheskoy infektsionnoy bol'nitsy (nauchnyy rukovoditel' - G.M.Kapnik)
(DYSENTERY) (DIGESTIVE FERMENTS)

NESTERIN, M.F.; MIKHLIN, S.Ya.; VERISOVA, M.A.

Detecting intestinal disorders in obliterated dysentery. Sov.med. 21 no.11:69-71 N '57. (MIRA 11:3)

1. Iz laboratorii fiziologii pishchevareniya (zav.-prof. G.K.Shlygin) Instituta pitaniya AMN SSSR i 1-y klinicheskoy infektsionnoy bol'nitsy (nauchnyy rukovoditel' G.M.Kapnik) Moskvy.

(DYSENTERY, metab.
fecal enzymes in obliterated form)
(ENZYMES, determ.
in feces in obliterated form of dysentery)
(FECES, in various dis.
ferments in obliterated form of dysentery)

T-7

USSR/Human and Animal Physiology - Digestion.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31864

Author : Nesterin, M.F.

Inst :

Title : Influence of X-Ray Irradiation on the Ferment- Secretion Process in the Intestine.

Orig Pub : Vestn. rentgenol. i radiol., 1957, No 4, 81-83.

Abstract : General irradiation by X-ray (200 and 400 r) of dogs with fragments of the duodenum isolated according to Thiry increased in 5 days the contents of enterokinase (I) in the intestinal juice from 3390-11400 units in 1 g of dense residue of juice up to 23980. Simultaneously, the secretion of I increased per unit of time. A dose of 600 r in the first week decreased the content of I from 4720-8760 to 2480 units in 1 g. The content of phosphatase was also changed somewhat. The content of lipase and polypeptidase did not change after irradiation.

Card 1/2

NESTERIN, M. F. Cand Med Sci -- (diss) "Effect of X-rays upon the secretory function of the stomach and intestine." Mos,1957. 11 pp (Acad Med Sci USSR), 200 copies (KL, 3-58, 99)

MIKHLIN, S. Ya.; NESTERIN, M. F.; ZOLOTOVA, K. V.

Problem of residual modifications of intestinal function in dysentery.
Sov. med. 19 no.11:19-23 N '55 (MLRA 9:1)

1. Iz laboratorii fiziologii pishevareniya (zav.-prof. G. K. Shlygin) Instituta pitaniya Akademii meditsinskikh nauk SSSR i kabineta dlya bol'nykh kishechnymi infektsiyami (zav. K. V. Zolotova) Sokol'nicheskogo rayona Moskvy.
(DYSENTERY, BACILLARY,
seq., intestinal funct.)

in one operation, making it possible to follow the changes in the plasma with time. The recorder can be used to study the pattern of luminescence in symmetrical cylindrical bodies. As an electron photo multiplier with an improved signal-to-noise ratio, it can also be used to study weakly luminescence bodies.
The authors thank L. V. Gyavgyanen and his associates for their help in building the instrument, and G. F. Dolgov-Savel'yev for a discussion of the results obtained. Orig. art. has: 7 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 005/ OTH REF: 001/

L 09883-67

ACC NR: AT6033196 SOURCE CODE: UR/3226/66/000/041/0001/0014

27
25

AUTHOR: Kruglyakov, E. P.; Nesterikhin, Yu. Ye.

ORG: none

TITLE: System for ultrahigh-speed registration of spectral line contours

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Preprint, no. 41, 1966. Sistema dlya sverkhskorostnoy registratsii konturov spektral'nykh liniy, 1-14

TOPIC TAGS: luminescence, luminescence spectrum, spectral line, spectral line recorder, spectral line contour recorder, plasma

ABSTRACT: An improved model of a double recorder for registering spectral line contours at ultrahigh speeds is described. The recorder (Fig. 1), which combines the elements of an electron optical unit and an electron multiplier, consists of 1) a photo cathode, 2) an electron optical anode, 3) deflecting plates, 4) a recording slit, 5) an electron multiplier dinode unit, 6) a collector, and 7) a focusing electrode. Spectral line contours are recorded at 10^{-8} sec and less. Multiple recordings are made both of individual lines and parts of the spectrum

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L 10944-67

ACC NR: AP7000537

This distrubance consists of an increase in the radial and azimuthal components to a value equal to about half the stationary field. As the plasmoid moves forward in the preliminary plasma, the slope of the leading front of the magnetic signal increases. The fine structure of the radial magnetic field could be seen more clearly at velocities in excess of the Alfven velocity. Large scale Alfven-type oscillations were observed behind the front of the magnetic disturbance. It is shown that the observed effect is influenced not only by damping, but also by dispersion effects and by disturbances that move relative to the quasistationary field. No instability occurs in the absence of a preliminary plasma. The extent to which the described phenomenon can be identified with the formation of a collisionless shock wave is still uncertain, but the results are qualitatively close to those obtained by satellite exploration of the magnetosphere, and the experimentally measured leading front of the disturbance agrees qualitatively with theoretical estimates. The authors thank R. Z. Sagdeyev for discussions and help. Orig. art. has: 3 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 22Aug66/ ORIG REF: 005 OTH REF: 003

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L 10944-67 EWT(1) IJP(c) SOURCE CODE: UR/0386/66/004/010/0403/0409
ACC NR: AP7000537

AUTHOR: Nesterikhin, Yu. Ye.; Ponomarenko, A. G.; Yablochnikov, E. A.

ORG: Institute of Nuclear Physics, Siberian Department, Academy of Sciences SSSR (Institut yadernoy fiziki, Sibirskoye otdeleniye Akademii nauk SSSR)

TITLE: Generation of collisionless shock waves propagating along a magnetic field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 10, 1966, 403-409

TOPIC TAGS: plasma shock wave, shock wave propagation, plasmoid, cyclotron frequency, plasma oscillation, plasma magnetic field, plasma decay

ABSTRACT: The authors present the results of preliminary experiments to check on the feasibility of exciting shock waves propagating in a rarefied plasma along the magnetic field, such as may occur under outer-space conditions. A column of preliminary plasma was produced in a quasistationary magnetic field $H_0 = 0 - 3$ kOe by discharging a capacitor bank in a glass vacuum chamber filled with hydrogen ($10^{-3} - 5 \times 10^{-4}$ mm Hg). Some 50 - 70 μsec later, a second capacitor was discharged to produce a fast plasmoid propagating in the stationary plasma. The propagation of the plasmoid was traced with a series of suitably distributed probes and an electrooptical converter. The results show that when the longitudinal pressure is larger than the transverse pressure, a magnetic disturbance is actually seen to be produced after a time on the order of the reciprocal ion-cyclotron frequency, on the front of the moving plasmoid.

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L 40901-66

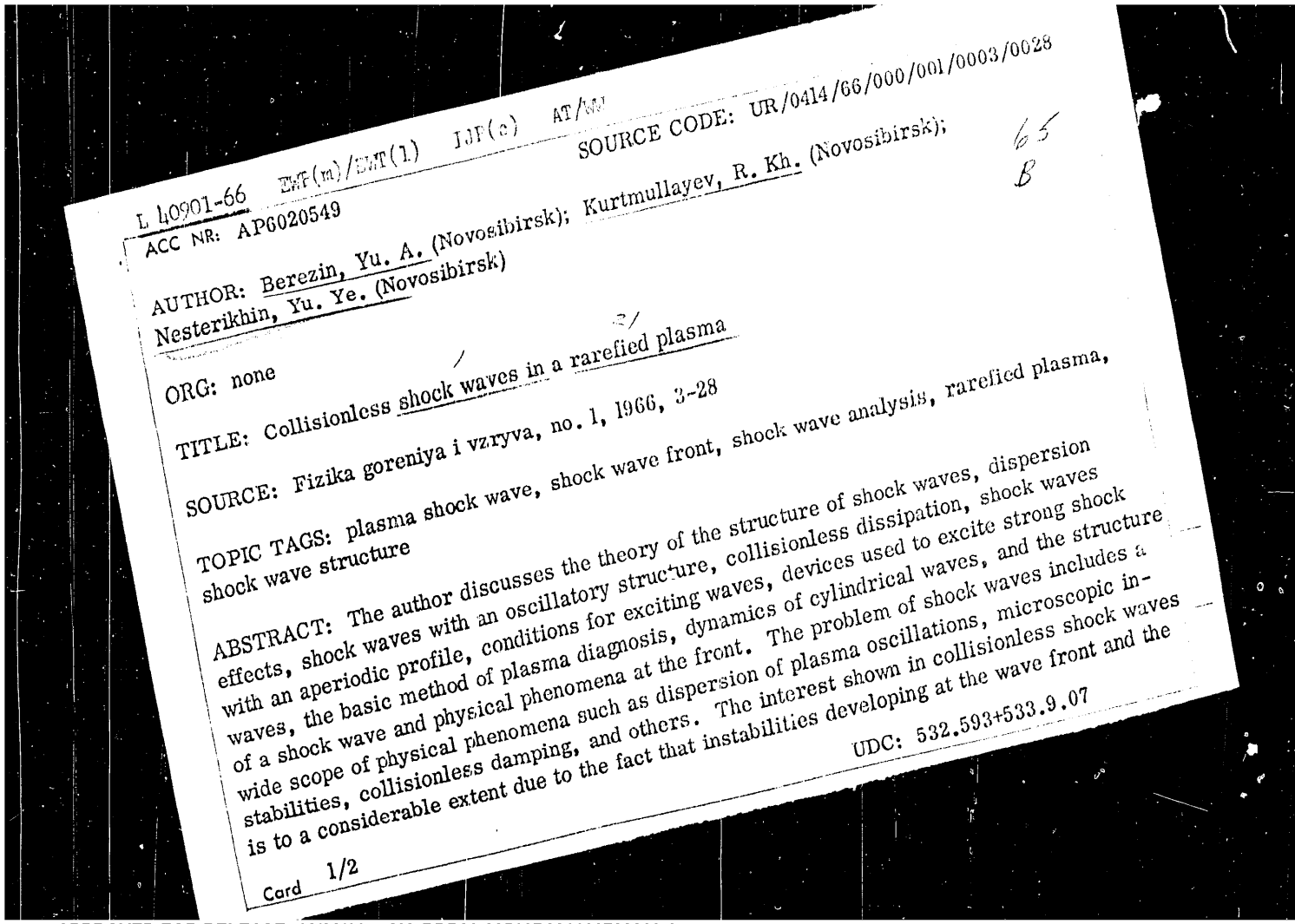
ACC NR: AP6020549

phenomenon of the so-called "reversal" of strong shock waves can lead to an effective dissipation of energy and heating of plasma. The indicated phenomena are also of value for understanding processes occurring in the interplanetary medium, for example the interaction of the solar wind with the geomagnetic field. Unfortunately, the structure of a shock wave and its width has still not been investigated in space experiments, but apparently this will be done in the near future owing to the increasing volume of work being performed on satellites and rockets. Orig. art. has: 14 figures and 11 formulas.

SUB CODE: 20/ SUBM DATE: 16Dec65/ ORIG REF: 021/ OTH REF: 017

Card 2/2

APPROVED FOR RELEASE: 12/02/11: CIA-RDP86-00513R001136700039-6



L 40901-66 EWP(m)/EWT(l) IJP(c) AT/WW

ACC NR: AP6020549 SOURCE CODE: UR/0414/66/000/001/0003/0028

AUTHOR: Berezin, Yu. A. (Novosibirsk); Kurtmullayev, R. Kh. (Novosibirsk); Nesterikhin, Yu. Ye. (Novosibirsk)

ORG: none

TITLE: Collisionless shock waves in a rarefied plasma

SOURCE: Fizika goreniya i vzryva, no. 1, 1966, 3-28

TOPIC TAGS: plasma shock wave, shock wave front, shock wave analysis, rarefied plasma, shock wave structure

ABSTRACT: The author discusses the theory of the structure of shock waves, dispersion effects, shock waves with an oscillatory structure, collisionless dissipation, shock waves with an aperiodic profile, conditions for exciting waves, devices used to excite strong shock waves, the basic method of plasma diagnosis, dynamics of cylindrical waves, and the structure of a shock wave and physical phenomena at the front. The problem of shock waves includes a wide scope of physical phenomena such as dispersion of plasma oscillations, microscopic instabilities, collisionless damping, and others. The interest shown in collisionless shock waves is to a considerable extent due to the fact that instabilities developing at the wave front and the

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L 33388-66

ACC NR: AP6015309 2

0.8, and 3 cm microwaves, an x-ray detector, an electrostatic analyzer, and a special ion collector similar to that described by M.V.Babykin et al. (ZhETF, 46, 511, 1964). The last was mounted in the region of one of the magnetic mirrors and was so designed that only ions with Larmor radii exceeding a preset value could reach the collecting electrode. A small number of high energy charged particles (energies up to 5 keV) were observed; these are ascribed to formation of a plasmoid in the conical plasma gun during the first half-period of the discharge. Most of the charged particles in the magnetic mirror machine had energies of the order of 100 eV; the density of particles with energies between 20 and 200 eV decreased exponentially with a time constant of 80-90 microsec. It is concluded that by means of external injection (fast theta-pinch) a plasma with a density of 10^{13} cm^{-3} and an average charged particle energy of 100 eV can be obtained in a magnetic mirror machine in which the magnetic field strength is between 1 and 3 kOe, and that such plasma can be employed to investigate the physics of collisionless shock waves. The authors thank R.Z.Sagdeyev for his interest in the work and V.Pil'skiy for assistance with the measurements. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 21May65/ ORIG REF: 004/ OTH REF: 001

Card 2/2

L 33388-66 EWT(1)/ETC/f IJP(c) AT

ACC NR: AP6015309 (A, N) SOURCE CODE: UR/0057/66/036/005/0877/0880

AUTHOR: Alinovskiy,N.I.; Iskol'dskiy,A.M.; Nesterikhin,Yu.Ye.; Ponomarenko,A.G.

ORG: none

TITLE: Investigation of the plasma injected into a magnetic trap with the aid of a conical theta-pinch

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 5, 1966, 877-880

TOPIC TAGS: plasma gun, plasma source, plasma injection, magnetic pinch, plasma diagnostics, plasma shock wave, shock wave physics

ABSTRACT: The authors briefly describe the production and diagnosis of the plasma that was injected into a magnetic trap in the experiments of A.M.Iskol'dskiy, R.Kh. Kurtmullayev, Yu.Ye.Nesterikhin, and A.G.Ponomarenko (ZhETF, 47, No. 8, 1964). The plasmas (ion density about 10^{13} cm^{-3}) were produced with the aid of a conical theta-pinch. Approximately 0.1 cm^3 of D_2 or He was admitted to the vacuum chamber and a 2 μF 20-40 kV capacitor was discharged through the ionizing winding some 300-400 microsec later. The heated plasma entered the 150 cm long 16 cm diameter region between the two magnetic mirrors (mirror ratio ~ 1.4, magnetic field strength ≤ 3 kOe) through one of the mirrors, the field strength in which was less than that in the other by a factor of 1.3. Diagnosis of the plasma was effected with the aid of 0.4,

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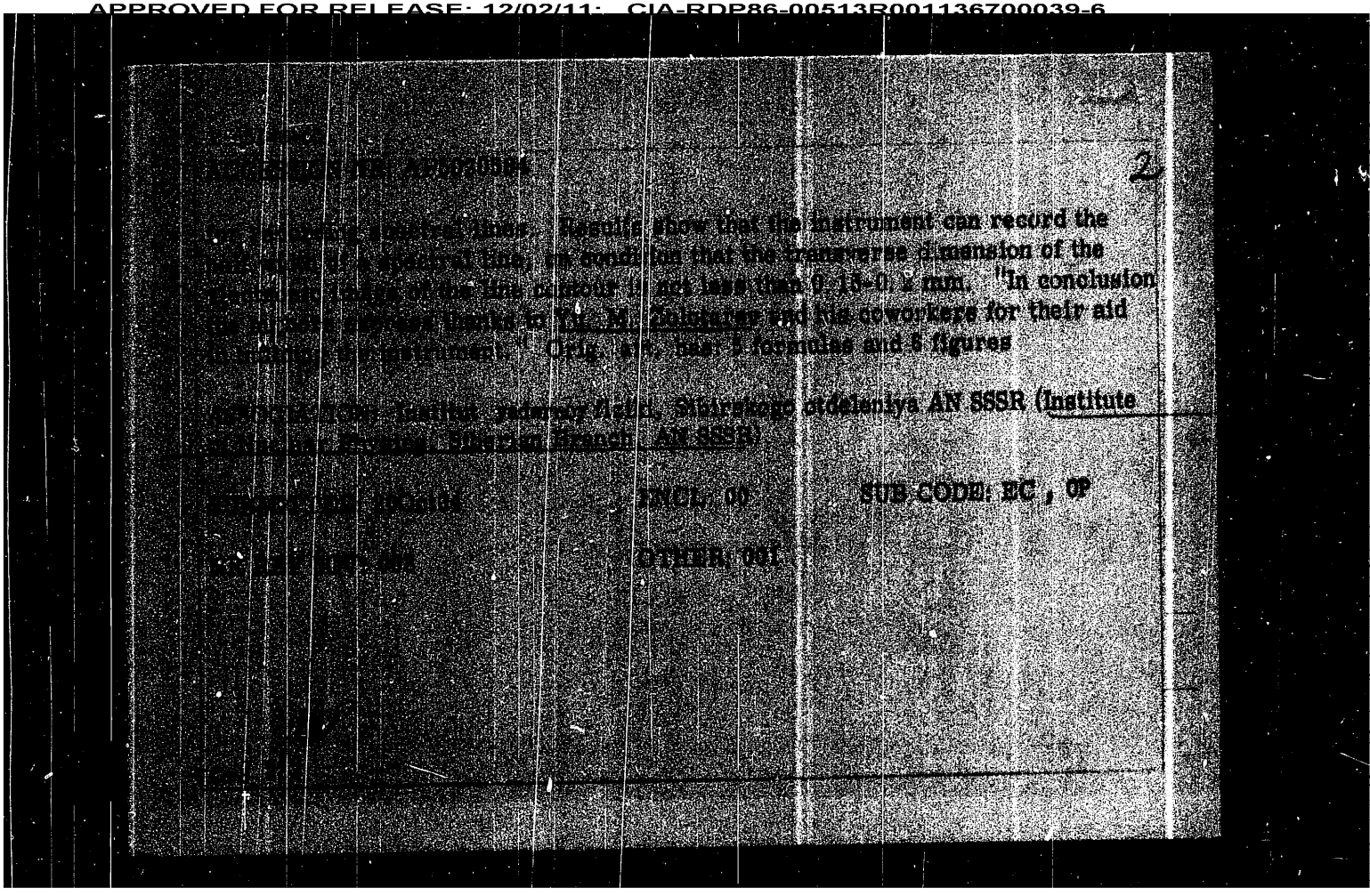

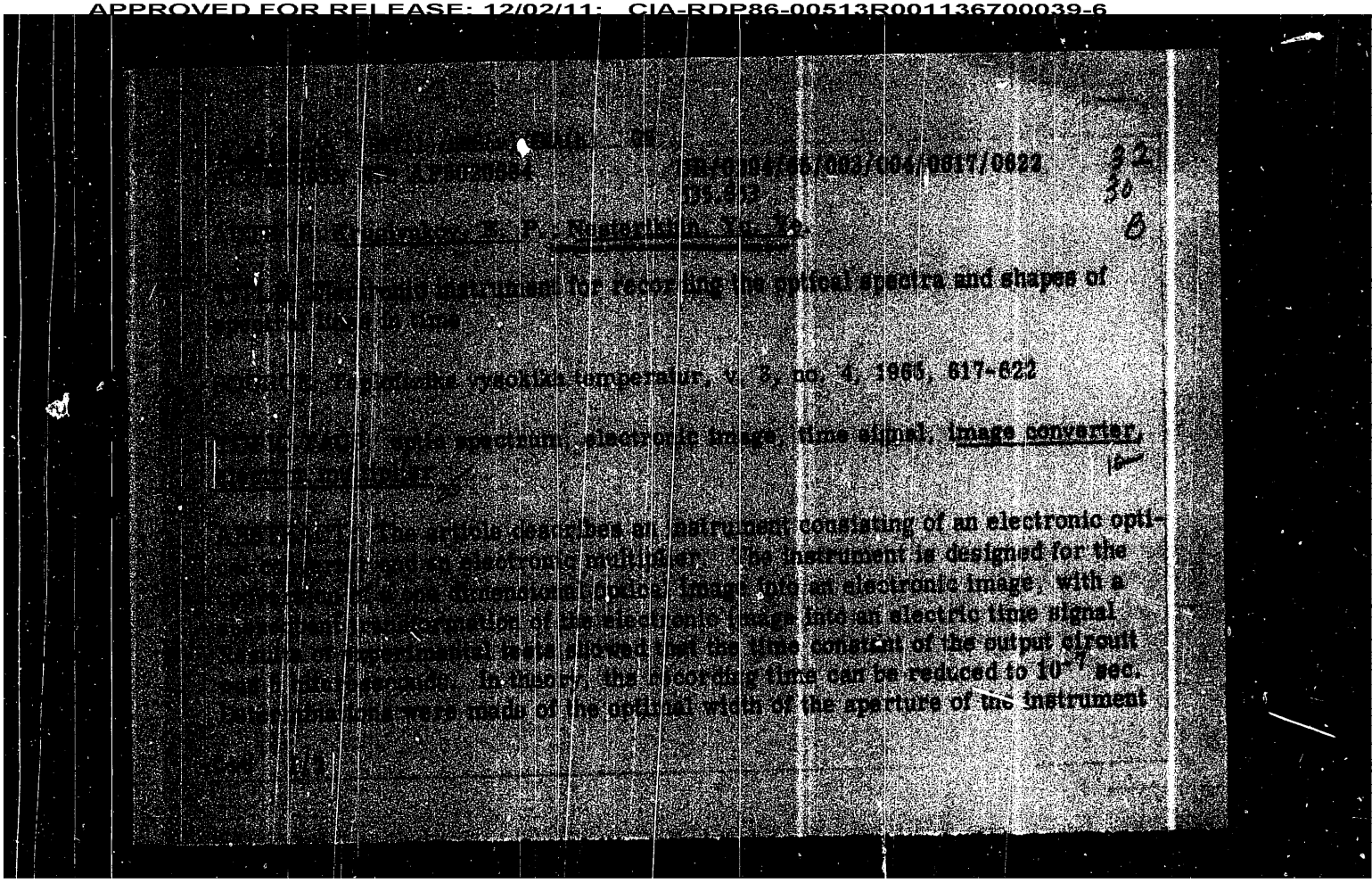

PERGAMENT, M.I.; NESTERIKHIN, Yu.Ye.; KOMEL'KOV, V.S.

Electron optical high-speed motion-picture cameras for the study of fast events. Usp.nauch.fot. 9:64-71 '64.
(MIRA 18:12)

L 14982-66

ACC NR: AP6002366

proved to be ~ 10 kev with $n \lesssim 10^{13}\,cm^{-3}$, which corresponds to data obtained by means of an analyzer of charged particles by energies and magnetic probes. Authors thank G.I. Budker for constant attention and interest in the work, and R. Z. Sagdeyev for participation and assistance in a discussion of the experimental results. Orig. art. has: 4 figures.

SUB CODE: 20 / SUBM DATE: 17Nov64 / ORIG REF: 003

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L 14982-66 EWT(1)/EWP(m)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/EWA(d)/EWP(t)/FCS(k)/
ACC NR: AP6002366 EWP(b)/EWA(h) SOURCE CODE: UR/0207/65/000/006/0119/0121
IJP(c) JD/WW/AT

AUTHOR: Iskol'dskiy, A. M. (Novosibirsk); Kurtmullayev, R. Kh. (Novosibirsk); Nesterikhin, Yu. Ye. (Novosibirsk); Ponomarenko, A. G. (Novosibirsk)

ORG: None

TITLE: Excitation of strong collisionless shock waves in a deuterium plasma

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1965, 119-121

TOPIC TAGS: shock wave, plasma wave, deuterium, ion temperature, hydrogen plasma

ABSTRACT: The authors showed earlier (Eksperimenty po besstolknovitel'noy udarnoy volne v plazme. Zh. eksperim. i teor. fiz., 1964, vol. 47, no. 8, p. 774) that in a rarefied plasma in a quasi-stationary magnetic field shock waves can be excited with a shock front width considerably smaller than the length of the free path of the ions. This article presents preliminary results of experiments on heating a hydrogen plasma by means of strong collisionless shock waves. The methods and equipment used are described. Experimental results confirm the theory that under conditions of excitation of strong collisionless shock waves and subsequent compression of the plasma by a current layer it is possible to achieve intensive heating of the ions. Optical and magnetic measurements on the first half-period do not reveal any appreciable instabilities, which according to the authors, is extremely important in the clarification of the mechanism in the formation of the neutrons. The temperature of the ions, estimated in the expectation of the thermonuclear mechanism of the formation of neutrons,

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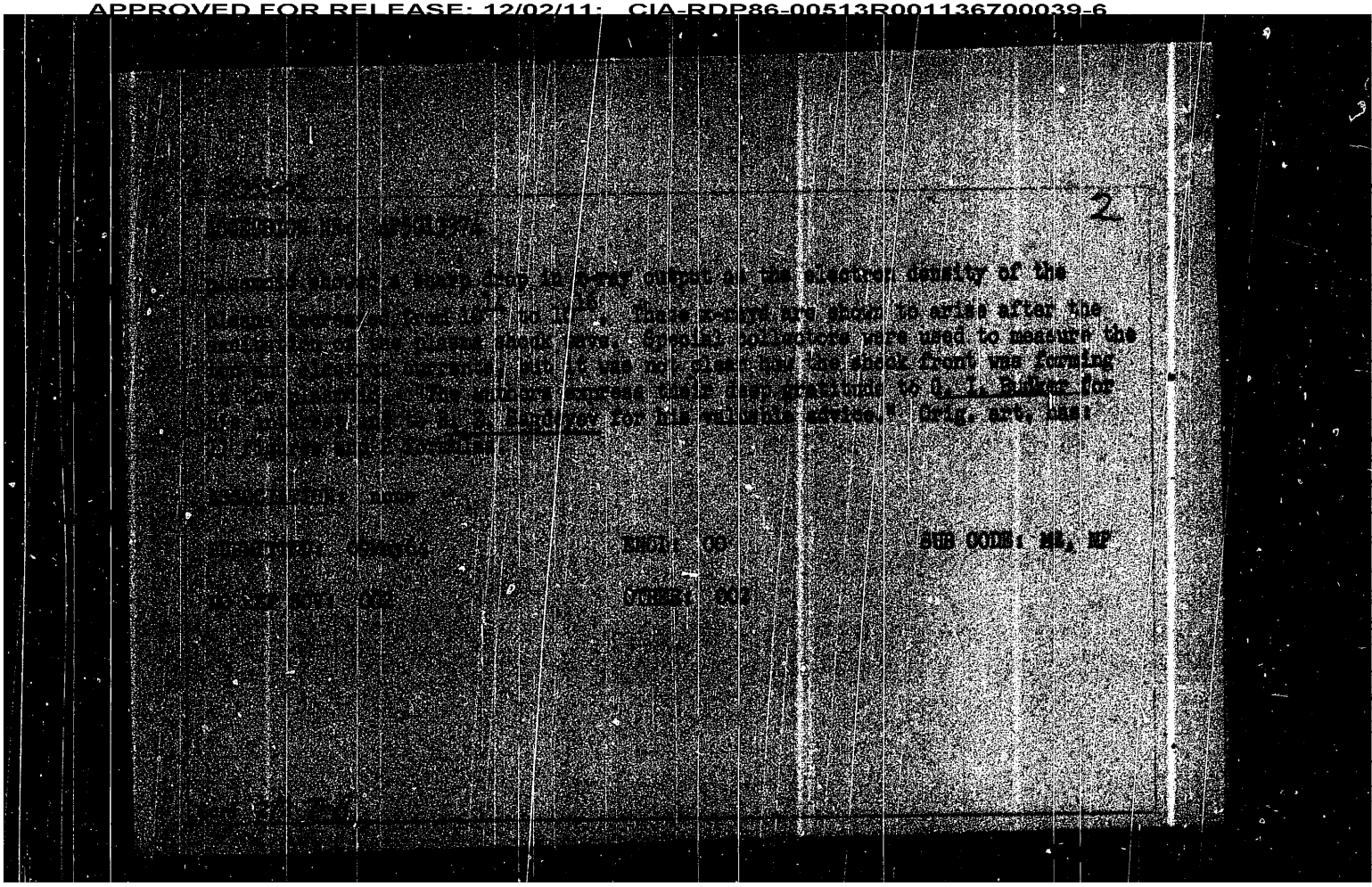

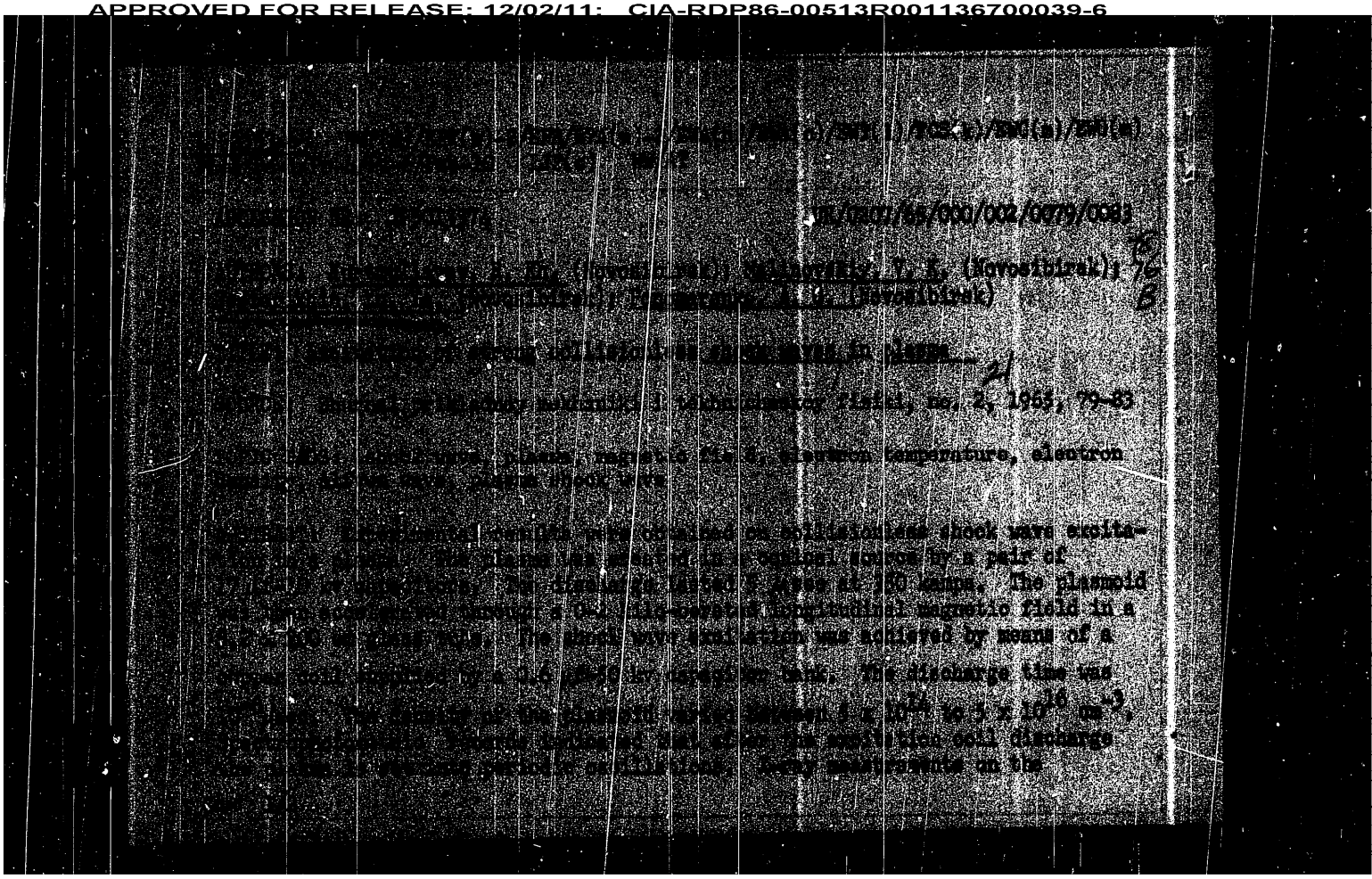

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ACCESSION NR: AP5016651

is shown in the experiments that plasma is heated during first current rise (with trapping of the magnetic field also occuring). Later, a cold plasma sheet formed at the tube walls together with the field trapped in the hot plasma leads to containment of plasma for a few microseconds. "The authors thank Academician G. I. Budker and Corresponding member AN SSSR R. Z. Sagdeyev for their continued interest and help in interpreting the experiment." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 12Aug64 ENCL: 00 SUB CODE: ME, EM

NO REF SOV: 004 OTHER: 004

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